

REMARKS

This is a full and timely response to the outstanding final Office Action mailed November 15, 2005. Claims 3-18 have been previously canceled. Claims 1, 2 and 19-40 are pending in the present Application. In view of the following remarks, reconsideration and allowance of the Application, and presently pending claims, are respectfully requested.

I. Allowable Subject Matter

Applicant greatly appreciates the Examiner's statement in the Office Action in which claims 1, 2, 38 and 39 are indicated as allowable, and claims 22, 24, 25 and 36 are objected to but stated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

II. Claims 22, 24, 25 and 36

Claims 22, 24 and 36 are amended herein to present them in independent form and, thus, are believed allowable as indicated in the Office Action.

Claim 25 depends upon claim 24 and thus is believed allowable in view of the amendment to claim 24.

III. Response to Rejections under 35 U.S.C. § 103(a)

A. Claims 26 and 37

Independent claim 26 and claim 37, that depends upon claim 26, stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Lo, et al.* (U.S. Patent No. 5,876,350) in view of *Xue et al.*, (U.S. Patent No. 6,108,622). Applicant respectfully traverses this rejection and submits that this rejection should be withdrawn because: 1) the combination of the references does not disclose, teach or suggest all of the elements of the claims; and 2) the references are not properly combinable to support the rejection.

The Office Action cites to the *Lo, et al.* patent as disclosing a filtering method comprising the steps of receiving a digital signal, the digital signal having an initial sampling rate the digital signal further having line noise, and filtering out line noise at 50

Hz and at 60Hz. (See paragraph 3). The Office Action acknowledges that *Lo, et al.* does not specifically disclose a filtering method that reduces the initial sampling rate of the digital signal to a reduced sampling rate. The Office Action relies on the *Xue, et al.* patent to further support the rejection.

The Office Action asserts that *Xue, et al.* "in a related field, discloses a method (figs. 1-5) that reduces the initial sampling rate of the digital signal to a reduced sampling rate." *Office Action, p. 2*. Thus, the Office Action relies upon *Xue, et al.* to make up for those features of claim 26 that *Lo, et al.* fail to teach or suggest. Applicant respectfully disagrees with this characterization of *Xue, et al.*

Xue, et al. discloses a component for use in a multimedia center. *Xue, et al.* refer to its device as an "audio decoder." *Xue, et al.* thus teaches the processing of audio signals, which are small signal A.C., and does not address the processing of a D.C. signal for the purpose of removing small signal A.C. Further, the output rate of the signals in *Xue, et al.* is 48 K Hz and 96 K Hz.

Neither *Lo, et al.* nor *Xue, et al.* teach or suggest the method recited in claim 26 for receiving a digital signal, the digital signal having an initial sampling rate or frequency, the digital signal further having line noise, reducing line noise at 50 Hz and 60 Hz by filtering the line noise using a low pass filter and simultaneously reducing the initial sampling rate or frequency of the digital signal to a reduced sampling rate or frequency.

While *Lo, et al.* disclose the use of the low pass filter for filtering line noise in a digital signal, it does not disclose simultaneously reducing the initial sampling rate of the digital signal to a reduced sampling rate. *Xue, et al.*, on the other hand, does not teach or suggest reducing line noise at 50 Hz and 60 Hz by using a low pass filter. Moreover, the use of a low pass filter is contradictory to the teachings of *Xue, et al.* and would result in an unwanted filtering of audio and video signals in the audio decoder of *Xue, et al.* Further, *Xue, et al.* is not in a related field to that of *Lo, et al.* *Xue, et al.* is directed to processing audio and video signals in a audio decoder for use in a multimedia center in contrast to *Lo, et al.*'s device for filtering digital signal in an EKG based heart rate monitor. The devices and systems of the two references involve different types of signals

operating at different frequency ranges processed for different purposes. Accordingly, even if *Lo, et al.* and *Xue, et al.* were properly combinable, the combination would not produce the method recited in claim 26, namely a method comprising the steps of: receiving a digital signal, the digital signal having an initial sampling rate, the digital signal further having line noise; reducing line noise at 50 Hz and 60Hz by filtering the line noise using a low pass filter; and simultaneously reducing the initial sampling rate of the digital signal to a reduced sampling rate.

Claim 37 has been amended to correct its dependency from claim 26 to claim 36. As initially presented, claim 37 lacked antecedent reference. This amendment resolves the lack of antecedent reference in claim 37 as originally presented.

B. Claims 28-35

Dependent claims 28-35 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Lo, et al.* in view of *Xue, et al.* as applied to claim 26 above, and further in view of *Del Signore, et al.* (U.S. 5,157,395). Applicant respectfully traverses this rejection and submits that this rejection should also be withdrawn because: 1) the combination of the references does not disclose, teach or suggest all of the elements of the claims; and 2) the references are not properly combinable to support the rejection.

The Office Action at paragraph 5, acknowledges that *Xue, et al.* did not specifically disclose the features of claims 28-35. The Office Action relies on *Del Signore, et al.* to make up for the lack of teachings in *Xue, et al.*

Claims 28-35 are dependent either directly or indirectly upon independent claim 26 discussed above. Thus, Applicant submits claims 28-35 are allowable for the same reasons as claim 26 above.

Additionally, Applicant submits claims 28-35 are allowable for the reason that *Del Signore, et al.* does not teach or suggest their respective features. For example, *Del Signore, et al.* does not appear to teach or suggest use of a low pass filter or a series, as in claim 26, nor does it teach or suggest filtering line noise at 50 Hz and 60Hz, as in claims 28 and 29.

C. Claims 19-21, 23 and 40

Independent claim 19 and its dependent claims 20, 21, 23 and 40 stand rejected under 35 U.S.C. 103(a) as allegedly unpatentable over *Lo, et al.* in view of *Xue, et al.* in combination with *Del Signore, et al.*

Claim 19 recites a filtering apparatus including a primary decimation element configured to reduce the initial sampling rate of the input digital signal to a reduced sampling rate as function of the decimation ratio, further including a low pass filter for simultaneously filtering line noise at 50 Hz and 60 Hz. Similar features are recited in the method of claim 26. Thus, claim 19 is believed allowable for the same reasons as claim 26 above.

Dependent claims 20, 21, 23 and 40 depend upon claim 19 and are believed allowable for the same reasons as claim 19. Additionally, claims 20 and 21 are believed separately allowable for the reasons that none of the cited references teach or suggest an initial sampling rate of 1200 Hz or a reduced sampling rate of 10 Hz.

Moreover, the combination of *Lo, et al.*, *Xue, et al.* and *Del Signore, et al.* as discussed above would not achieve the same end result as the apparatus recited in these claims. For example, *Xue, et al.* teaches away from use of a low pass filter and *Del Signore, et al.*

D. New Claims 41-47

Claims 41-43 are newly presented apparatus claims dependent upon claim 19. No new matter is presented as the features of these claims are supported by the specification. These claims are believed allowable for the same reasons as dependent claim 19. Additionally, these claims are believed allowable for the reasons that none of the cited references teach or suggest their respective features.

Similarly, new claims 44-46 depend upon the independent method claim 26. These claims are believed allowable for the same reasons as claim 26 and also are believed allowable on their own merits.

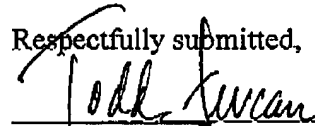
New claim 47 combines the features of claim 36 with claim 19. The combination is analogous to claim 36 depending upon method claim 26. Claim 36 was objected to as

objected to as dependent upon a rejected base claim but indicated as allowable. Claim 47 is thus believed allowable for the same reasons as claim 36.

CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicant respectfully submits that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims, are in condition for allowance. Favorable consideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,



Todd Deveau, Reg. No. 29,526

Suite 1750
100 Galleria Parkway N.W.
Atlanta, Georgia 30339
(770) 933-9500